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IS 5322 (1988): High Density Polyethylene Wash-Bowls [PCD
12: Plastics]



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Indian Standard

**SPECIFICATION FOR HIGH DENSITY
POLYETHYLENE WASH-BOWLS**

(First Revision)

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Indian Standard

SPECIFICATION FOR HIGH DENSITY POLYETHYLENE WASH-BOWLS

(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards on 4 May 1988, after the draft finalized by the Plastics Sectional Committee had been approved by the Petroleum, Coal and Related Products Division Council.

0.2 High density polyethylene (HDPE) wash-bowls are being manufactured in large quantities in India. The main advantages possessed by these bowls are unbreakability, ease of handling, lightness, resistance to boiling water and resistance to most chemicals. This standard is intended to protect consumers' interest and to serve as a guide in assisting the manufacturers to produce bowls of acceptable quality.

0.3 This standard was first published in 1969. In this revision, requirements for drop test and ultraviolet protection have been included. Further requirements for colour fastness to light, reversion, splitting, distortion and surface attack have been deleted.

0.3.1 Wash-bowls are also likely to be used for storage of foodstuffs. Therefore, the material used for making wash-bowls for this end use shall be of food grade. Accordingly, material clause has been modified to cover this aspect as well.

0.4 This standard contains clauses 3.4 and 4.2 which call for agreement between the purchaser and the supplier.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Rules for rounding off numerical values (revised).

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for circular, square and rectangular wash-bowls moulded from HDPE.

2. TERMINOLOGY

2.1 For the purpose of this standard the definitions given in IS : 2828-1964* shall apply.

3. REQUIREMENTS

3.1 Material — The bowls shall be moulded from natural or coloured HDPE. The HDPE used for injection moulding of bowls shall be of Grade 45 MA or 54 MA (see IS : 7328-1974†).

NOTE — If the wash-bowls are to be used for temporary storage of food articles, the basic resin and other additives shall conform to IS : 10146-1982‡.

*Glossary of terms used in the plastics industry.

†Specification for high density polyethylene materials for moulding and extrusion.

‡Specification for polyethylene for its safe use in contact with foodstuffs, pharmaceuticals and drinking water.

3.2 Appearance — The bowls shall have smooth surface finish without any blemish. Any spruce (stalk) shall be neatly removed by milling or by cutting. The bowls shall be free from moulding flash.

3.3 Construction — The bowls shall have a turned-over rim or some other means by which they could be lifted when in use. They shall be free of warpage.

3.4 Volume and Mass — The volume and the minimum mass of the bowls shall be as agreed to between the purchaser and the supplier.

3.5 Ultraviolet Protection — Wherever the bowls are to be exposed to sun-rays, they shall contain ultraviolet absorbers — type and percentage — shall be as specified in IS : 10141-1982*.

3.6 Colour Fastness

3.6.1 Colour Bleeding — The bowls shall not

*Positive list of constituents of polyethylene in contact with foodstuffs, pharmaceuticals and drinking water.

show bleeding of colour when tested as prescribed in 12 of IS : 2530-1963*.

3.6.2 Colour Fastness to Water/Soap Solution/Detergent — The bowls shall pass the test when tested as prescribed in 13 of IS : 2530-1963* using a saturated solution of soap (conforming to IS : 285 - 1974†) or synthetic detergents instead of water.

3.7 Drop Test — A bowl filled with water to its nominal capacity shall withstand three falls when dropped vertically on a flat concrete surface/MS sheet from a height of 1 metre.

4. MARKING AND PACKING

4.1 Marking — Each bowl shall be marked with the manufacturer's name and trade-mark, if any, and the water capacity (up to brim) at room temperature in litres.

4.1.1 Each bowl shall be supplied with a label giving the following instructions:

- Wash with warm water containing soap or detergent;
- Avoid abrasive or scouring powder;
- Do not place on a hot stove or near fire;

*Methods of test for polyethylene moulding materials and polyethylene compounds.

†Specification for laundry soap (second revision).

- Do not place hot utensils inside unless there is water in the bowl; and
- Do not allow contact with dry-cleaning fluids.

4.1.2 The bowls may also be marked with the Standard Mark.

NOTE — The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act 1986 and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or processors, may be obtained from the Bureau of Indian Standards.

4.2 Packing — The bowls shall be packed as agreed to between the purchaser and the supplier.

5. SAMPLING

5.1 Representative samples of the bowls shall be drawn and conformity of the material to the requirements of this specification shall be decided according to the procedure prescribed in Appendix A.

APPENDIX A (Clause 5.1)

SAMPLING OF POLYETHYLENE WASH-BOWLS

A-1. SCALE OF SAMPLING

A-1.1 Lot — In any consignment, all the bowls of same size, same type and belonging to the same batch of manufacture shall be grouped together to constitute a lot.

A-1.2 For ascertaining the conformity of the material to the requirements of this specification, samples shall be tested from each lot separately.

A-1.3 The number of bowls to be sampled from a lot shall depend upon the size of the lot and shall be in accordance with Table 1.

A-1.3.1 These bowls shall be selected at random from the lot. In order to ensure randomness of selection, the procedure given in IS : 4905-1968* shall be followed.

A-2. NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

A-2.1 The bowls selected according to A-1.3.1 shall be tested for appearance (3.2), construction

*Methods for random sampling.

TABLE 1 SCALE OF SAMPLING AND PERMISSIBLE NUMBER OF DEFECTIVES

(Clauses A-1.3 and A-2.1)

LOT SIZE	FOR APPEARANCE, CONSTRUCTION, AND VOLUME AND MASS		SUB-SAMPLE SIZE FOR DROP TEST AND COLOUR FASTNESS
	No. of Bowls to be Selected	Permissible No. of Defective Bowls	
(1)	(2)	(3)	(4)
Up to 50	5	0	2
51 to 100	8	0	2
101 to 150	13	1	2
151 to 300	20	2	2
301 to 500	32	3	2
501 to 1 000	50	5	3
1 000 and above	80	7	3

(3.3) and volume and mass (3.4). A bowl failing to satisfy any one or more of these requirements shall be considered as defective. The lot shall be considered as conforming to the

requirements for these characteristics if the number of defective bowls in the sample is less than or equal to the corresponding number given in col 3 of Table 1.

A-2.2 The lot having been found satisfactory according to **A-2.1** shall be subjected to drop test (3.7) and colour fastness (3.6). For this purpose, the number of bowls given in the sub-sample shall be selected at random from the lot.

These may be selected from those already examined according to **A-2.1** and found satisfactory. Each of these bowls shall be first subjected to drop test and then tested for colour fastness. A bowl failing in any of these requirements shall be considered as defective. The lot shall be declared as conforming to the requirements of this specification, if none of the bowls in the sample is found defective.

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